DRAFT
ENVIRONMENTAL ASSESSMENT
FOR
TEMPORARY PLANNED DEVIATION
TO ADJUST CLASSIFICATIONS OF HYDROLOGIC INDICATORS AND FORECASTS

1 PROJECT PURPOSE AND NEED

1.1 PROJECT AUTHORITY.

Authority for this action is the Flood Control Act of 1948 (approved by Congress on June 30). It authorized the Central and Southern Flood Control Project, which is a multipurpose project that provides flood control, water supply for municipal, industrial, and agricultural uses; prevention of salt water intrusion; water supply for Everglades National Park (ENP); and protection of fish and wildlife resources.

1.2 PROJECT LOCATION.

The areas that may be affected by the proposed action includes Lake Okeechobee, the St. Lucie and Caloosahatchee Estuaries, and the Everglades Water Conservation Areas (see **Figure 1**, vicinity map).

Lake Okeechobee is located in south central Florida, and occupies portions of Glades, Hendry, Martin, Okeechobee, and Palm Beach Counties. The lake has an area of approximately 730 square miles.

The St. Lucie Estuary is located within portions of both Martin and St. Lucie Counties on the southeast coast of Florida. The two forks of the St. Lucie Estuary, the North Fork and South Fork, flow together near the Roosevelt Bridge at the City of Stuart, and then flow eastward approximately six miles to the Indian River Lagoon and Atlantic Ocean at the St. Lucie Inlet.

The Caloosahatchee Estuary is located on the southwest coast of Florida in Lee County. The Caloosahatchee River runs from Lake Okeechobee to the W. P. Franklin Lock and Dam (S-79) where it empties into the estuary.

The Water Conservation Areas (WCAs) are located to the south of Lake Okeechobee and to the north of Everglades National Park. The WCAs are areas managed for multiple purposes, but designed to receive and store water from adjacent areas, including Lake Okeechobee.

1.3 PROJECT NEED OR OPPORTUNITY.

The need for this action is clearly defined by limitations on releases from Lake Okeechobee during periods when water levels are high and the lake's littoral area would benefit from a reduction in water levels. As the recent past has shown, the Water Supply and Environment (WSE) regulation schedule may not allow for lake discharges even when a prolonged, moderately high stage is detrimental to the lake's littoral zone and ecological health.

1.4 AGENCY GOAL OR OBJECTIVE.

The agency goal is to improve performance of the WSE regulation schedule. The objective is to increase frequency of low level pulse releases in the lower zone of the schedule (Zone D) to improve in-lake performance with minimal or no adverse impacts to the performance of the multiple lake management objectives. Lower level pulse releases, which occur more often while in Zone D, can reduce the likelihood that the lake stage will go into a zone which may require higher discharges.

1.5 BACKGROUND AND PREVIOUS ENVIRONMENTAL DOCUMENTS.

A Final Environmental Impact Statement (EIS) was completed for the Lake Okeechobee Regulation Schedule Study. The EIS led to a Record of Decision (ROD) signed in July 2000. The objective of the study was to develop and select a new regulation schedule that would better optimize environmental benefits with little or no impact to competing purposes of flood control, water supply, navigation, regional groundwater control, salinity control, enhancement of fish and wildlife, and recreational purposes (USACE, 2000a). The schedule that was recommended in the EIS was named WSE (Water Supply and Environment) since it was designed to improve benefits to water supply and both lake and estuarine ecology. The WSE schedule was approved and implemented in 2000, and is the current regulation schedule for Lake Okeechobee. The regulation schedule that preceded WSE was known as the Run 25 regulation schedule.

The WSE regulation schedule was developed with the intent to improve the performance of the lake's littoral zone habitat and water supply, without impacting the other lake management objectives. The WSE regulation schedule provides more operational flexibility relative to earlier flood control schedules, such as Run 25, and was specifically designed to "optimize environmental benefits at minimal or no impact to competing lake purposes" (USACE, 2000a). The first releases made under WSE occurred in July 2002. In the short time since its implementation, the WSE has demonstrated improved performance for environmental objectives but also, its performance is equal to, or better than, the previous schedule, Run 25, for flood protection and water supply. However, it is realized that some improvements to the WSE can be made with minor modifications to the regulation schedule. A specific weakness of WSE has been the high percentage of time that the estuary

decision tree (***Figures 2 & 3***) calls for no releases while the lake stage is in Zone D of the regulation schedule. There have been times when such releases could have been made to the estuaries, ***without adverse impacts***, but the decision tree did not lead to that action. Such releases would have benefited Lake Okeechobee's littoral zone without significantly impacting other lake management objectives.

As part of recent efforts to improve the performance of the WSE, so that it better meets its intended objectives as described in the WSE EIS, several alternative regulation schedule modifications were developed and analyzed by the South Florida Water Management District (SFWMD). Of the alternatives that were evaluated, one referred to as the *Class Limit Adjustment* (CLA), detailed below, appears to meet the goals and objectives of both the SFWMD and the U.S. Army Corps of Engineers' (USACE) efforts to improve the WSE. The CLA could be an easily implemented modification that merges well with the existing WSE EIS.

This modification, or refinement, would increase the frequency of Zone D pulse releases. The WSE regulation decision trees (***Figures 2 & 3***) utilize three operational elements to evaluate the conditions in the lake and the regional system to make weekly operational decisions. The CLA lowers the classification limits of the Tributary Hydrologic Conditions and Lake Okeechobee's Net Inflow Outlook (LONINO), thus decreasing the percent of time when the decision tree indicates no releases should be made. The CLA improves the likelihood of making smaller releases more often, as opposed to stressful high damaging estuary releases. Smaller releases are preferred because the higher volume releases can have adverse effects to estuarine biota. The CLA would allow water managers to have the enhanced flexibility to allow for more environmentally sensitive management of discharges to the estuaries.

The performance of the CLA was simulated by using the South Florida Water Management Model (SFWMM v5.4.2). The SFWMM is a regional-scale, continuous simulation, hydrologic model that was developed and is maintained by the SFWMD. The SFWMM simulates the hydrology and water management of southern Florida from Lake Okeechobee to Florida Bay (Neidrauer, et al., 1998). The technical report in ***Appendix B*** summarizes the performance of the CLA alternative relative to the baseline WSE schedule with the original class limits.

1.6 DECISIONS TO BE MADE.

If a Finding of No Significant Impact (FONSI) results from this EA, then a temporary planned deviation to the WSE would be considered as an appropriate action to improve the WSE.

1.7 SCOPING AND ISSUES.

Many scoping response letters were received during the scoping process. Many comments indicated support for increased flexibility to make low level pulse releases from Lake Okeechobee for environmental benefits. Scoping comments can be found in Appendix C, pertinent correspondence.

1.7.1 ISSUES EVALUATED IN DETAIL.

The following issues were identified to be relevant to the proposed action and appropriate for detailed evaluation:

Water Supply
Impacts to Lake and Estuarine Biota
Endangered and Threatened Species
Water Quality
Flood Control

1.7.2 ISSUES ELIMINATED FROM DETAIL ANALYSIS.

The following issues were not considered important or relevant to the proposed action:

Historic Properties
Navigation
Air Quality
Hazardous, Toxic and Radioactive Waste

1.8 PERMITS, LICENSES, AND ENTITLEMENTS.

This action will be coordinated with the Florida Department of Environmental Protection pursuant to the Coastal Zone Management Act, 16 U.S.C., 1451-1464, as amended, and will be consistent with the Florida Coastal Management Program.